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THE CRITICAL METHOD IN SPEECH

BARNET BASKERVILLE

The critical method in speech, like the critical method in any other discipline, consists of making reasoned judgments based on certain standards of excellence. In our field the object of criticism has most commonly been a speech, play, or poem; a speaker, actor, or reader. Critics have attempted to assess the methods and effectiveness of speakers; they have appraised acting technique, dramatic theory, structure of individiual plays; they have speculated concerning the values of the oral interpretation of literature and have analyzed the works of particular authors to determine their suitability for oral presentation. In short, the critical method has thus far been employed principally in those areas of our field usually designated as "public address" "theater," and "oral interpretation." While the illustrations used in this paper are drawn largely from the public address area, it seems reasonable to assert that the basic method (i.e., the making of value judgments) and some of the principal problems of criticism are essentially the same regardless of the subject matter involved.

The making of an intelligent critical judgment involves (1) thorough understanding of the thing being criticized, (2) formulation of acceptable criteria or philosophic principles of judgment, and (3) application of criteria to the object, idea, or event for the purpose of evaluation. A recent work on rhetorical appraisal lists among the types of criticism the "analytic," described as being devoted to the collection of facts about the speech; the "synthetic," a collection of facts about the total speaking situation; and the "judicial," which involves in addition the evaluation and interpretation of results. I should prefer to think of these as *steps in a process*, rather than separate *kinds* of criticism, for strictly speaking, analysis is not criticism; synthesis is not criticism. By its very nature, all criticism is judicial. The collection of facts about a speech, albeit assiduously and scientifically undertaken, is not in any sense to be considered criticism of a speech.

All this is of course no disparagement of descriptive analysis. Analysis is an indispensable pre-requisite to appraisal; it is the means by which we achieve that thorough understanding which we have posited as the first step in the critical process. Analysis may also be an end in itself, as well as a means. Many excellent descriptive or historical studies are directed towards getting at the facts; they seek to answer such questions as: What is it like? What really happened? What did he say?[1] This is well worth doing, and must be done in ever-increasing quantity if criticism is to go beyond snap-judgment, but in itself it is not criticism. The critical study moves beyond this into the realm of evaluation in terms of explicit or implied standards.

II

But why criticism at all? What service, if any, does the critic perform? The question has been hotly debated by literary men for centuries, and statements of the function of criticism are nearly as numerous as the critics themselves. The canons of literary criticism are not, however,

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always applicable to the criticism of speeches, since there are basic differences in the thing being criticised. For example, Cleanth Brooks' suggestion that the function of criticism is "to put the reader in possession of the work of art,"[2] is not particularly helpful to the rhetorical critic since speeches are seldom abstruse or esoteric (as poems and novels sometimes are). A speech by its very nature is, or should be, immediately comprehensible; hence the interpretative function of the critic is seldom paramount. But another function often attributed to the literary critic is certainly the function of the rhetorical critic as well. Both bear responsibility for establishing and refining standards of performance. There is fully as much difference of opinion—and probably a good deal more misinformation and downright ignorance—concerning what constitutes a good speech as about what constitutes a good novel or poem. Competent criticism, based upon sound and significant standards, criticism which places first things first and refuses to elevate minutiae to a place of importance, can do much to guide and improve public taste, to distinguish quality from shoddy, and by so doing can force eventual modifications in practice.

A dramatic illustration of the influence of criticism upon practice is found in competitive speech events such as debate tournaments, or oratorical contests. Where the judges are known to respond favorably to flamboyant gestures and loud, clear voices, the contestants oblige with what is required. Contests sponsored by certain patriotic organizations have for so long exalted sensationalism, superlative, and effusive panegyric that they have become burlesques of oratory. Intelligent members of the audience are shocked to discover that the most shameless purveyor of sound and fury signifying nothing is often awarded first prize by judges advertised as speech experts. The only possible way of restoring respectability to such contests would be to substitute a new kind of judge and a new order of critical standards.

Practitioners, whether they be student contestants, or commencement speakers, or presidential candidates, will deliver what their judges (audiences) value most. The critic, as a dealer in values, has a responsibility to see that both speaker and audience learn to value the right things, and in the right order.

III

But what are the "right" things? The problem of selection and validation of criteria is unquestionably the most vexing aspect of the critical process. It is discouraging, but it is true, that no permanent solution can ever be reached. We can never know finally what standards are "best," since that too is a judgment, based upon other standards, founded in turn upon other assumptions. Moreover, conditions and values change; tastes change; and what was "best" for one age may be unimportant to another. Where does the critic turn for his standards of judgment? To the theorist, the philosopher—whose theorizing, incidentally, probably arose originally out of his observation of practice. Thus the critic of public address consults the rhetorician for a statement of what ought to be; rhetorical (or "oratorical") criticism may be defined as the application of rhetorical theory to the practice of public speaking for the purpose of evaluation. But *what* rhetorical theory? that is the question. Current practice has been to rely principally upon the writings of the classical rhetoricians, notably

Aristotle and Quintilian, while at the same time making use of relevant findings in such fields as psychology and sociology. There is, to be sure, no dearth of applicable criteria by which to judge a public speech. The difficulty lies in determining their value, the order of their importance, and the manner of their application.

We are continually calling upon the empirical and experimental methodologists to help us in this job of criteria validation. Armchair theories of pedagogues and ancient rhetoricians may profitably be tested in action. *Is* ethical proof a potent means of persuasion; *is* it most effective to put one's strongest point first; *does* emotionally loaded language produce demonstrable results where restraint and understatement do not? Set up controlled experiments and find out. Answers to such questions are helpful, but still more vital questions remain. Is it more important that a speech be effective or that it be true? Granted that a speech achieved its end, was the end worth achieving? The experimentalist cannot help us much here.

How objective, then, how "scientific," can our criticism be? Can we ever achieve that "agreement among observers" demanded by the scientific method, or must we inevitably operate in the realms of personal preference and individual taste? I believe that we can often approach agreement, both as to the validity of criteria and their application to the object of criticism. We can probably agree, for example, that a speech should be internally consistent, that a speaker should not advocate war-like measures in one breath and in the next proclaim his earnest desire for peace. Given this criterion of inner consistency and a thorough understanding of the facts of a speaking situation, we can probably reach some measure of unanimity as to whether a speaker contradicts himself or does not contradict himself. Similarly, critical members of the audience will no doubt be able to agree about whether the speaker's eye-contact and vocal projection were adequate to establish a communicative bond with his listeners.

But what of such questions as, for example, the suitability of a speech to the occasion? Readers of Professor Haberman's symposium of critical comment on the MacArthur speech to Congress[3] have noted marked *dis*agreement among observers on this point. Of course one's judgment upon this matter depends on his conception of the essential nature of the occasion. Were the Congress and the nation gathered together to hear a defense of policies the open advocacy of which had brought about the General's dismissal, or to provide a platform upon which an old soldier might gloriously, eloquently, and publicly "just fade away" into the oblivion of a vigorous political campaign? And what about that much-quoted conclusion? Was it the perfect stirring climax to a masterpiece of eloquence, a magnificent rhetorical coup which caused tears to well up unbidden in the eyes of cynical politicians? Or was it, as other perfectly respectable critics have asserted, maudlin, mawkish, and "corny?" Here we run headlong into a welter of conflicting criteria and emphases, differing standards of literary excellence, questions of sincerity and appropriateness, which render "agreement among observers" virtually impossible. Are tears in the eyes of the audience indications of rhetorical excellence? Is it relevant to inquire whether the old soldier really had any serious intention of fading away when he uttered those words?

The point to be made may be summarized in this way: We must continue to invite experimental validation of our criteria. We must apply those criteria accurately and dispassionately to objects which we have sought thoroughly to understand, to the end that "agreement among observers" may be as perfect as we can make it. But in the field of relative values we must never expect unanimity. Great difficulties attend the answering of the critic's three basic questions: What is he trying to do? How well does he do it? Is it worth doing? But the rhetorical critic must not seek to avoid the difficulties by simply ignoring one or more of the questions.

IV

The question has been asked whether there are possibilities for wider application of the critical method in the field of speech. Is it not likely that this method (and, for that matter, such other methods as the experimental, the empirical, and the historical) may have usefulness in areas in which they are not now being employed? Dr. Clarence Simon has made the point that the research method to be employed in a given case should be chosen on the basis of the nature of the problem to be dealt with, rather than on a subject-matter basis, and with this I would agree. Still, I suspect that the critical method will continue to prove most valuable in the areas of public address, drama and oral interpretation. One of my colleagues has suggested its possible usefulness in judgments of voice quality, once acceptable criteria can be worked out. Attempts are being made to establish standards for the evaluation of the effectiveness of communication in small informal groups. For example, conversation, conference, and group discussion may be judged on the basis of the presence or absence of an air of finality, the degree to which they are focussed on problems rather than personalities, and similar criteria. Certainly our teaching methods in all areas of the field can profitably be subjected to some searching critical analysis. But the principal extension of the critical method which I should like to see is its application to criticism itself. It is high time, I think, to subject our critical writing to a careful scrutiny with an eye to improving its quality and its usefulness. By way of conclusion I can make only a suggestive observation or two.

I would suggest first that our critical studies have not always been very readable. They are often, as Professor Crandell observed some time ago,[4] dull—yea even deadly— lacking in aliveness and imagination. One notes in the second place a frequent lack of a sense of proportion. The biographical chapter goes on for fifty pages; the political-economic-social background is delineated in laborious detail; while the speaker's ideas, as they appear in the speeches, are dispensed with in five pages, and the critical evaluation, properly hedged about with qualifications, is timorously tacked on to the summary. Furthermore, our studies tend to be sterotyped and over-formalized. The same Aristotelian stencil is unimaginatively superimposed on each speaking situation, with the result that our studies are all too much alike. Unusual indeed is the discussion of ethical proof which does not begin with the now threadbare quotation from Book I of the *Rhetoric*.[5]

But the most basic indictment of our critical studies is that they are not very critical. In our intense desire to be objective and "scientific" we eschew evaluation and fall back upon labeling and classification. We proudly announce the discovery that the speaker used ethical proof or that his sentences averaged forty-five syl-

lables each. I submit that as long as critics of public address fail to recognize in their writings that the most important part of a speech is its communicable content—the ideas and attitudes which it conveys, as long as we neglect content and concentrate primarily upon counting words, labeling devices, and listing ethical, logical and pathetic proofs, just so long shall we contine to write for one another and for no one else. Professor Haberman's MacArthur symposium should give us pause, for it spotlights the fact that journalists, who have been denied the blessings of even a single course in rhetorical criticism, can beat us at our own game. Three men whose judgment I greatly respect—professors respectively of English, Political Science, and Speech—concur that the critical comment of journalists Rovere and Evjue is most basic, comes closest to the heart of the matter. These writers, you will remember, present a brief but penetrating analysis of style and then proceed with an appraisal of the speaker's use of the available means of persuasion. They accuse the General of inconsistency, of misrepresentation of fact, of a preoccupation with theatrics, and of a failure to come to grips with the issues. Surely no one will deny that such indictments, if substantiated, constitute some pretty basic speech criticism. Much more basic, we can certainly agree, than a commentary which is almost completely given over to a count of the speaker's words and syllables, or a commentary which implies throughout that a speech may be great solely by virtue of the speaker's manliness, boldness, and personal energy.

We may forgive the Congressional critics for their obvious partisanship and their preoccupation with the histrionic aspects of the situation. Such is perhaps to be expected from commentators who are themselves active participants in the controversy. But we cannot so easily excuse professional critics who, given 350 words in which to critize an important address (an extremely difficult, if not impossible task to begin with) insist upon wasting much of their precious space in dealing with peripheral matters as if they were central.

It is the function of criticism to render intelligent and relevant judgments, and in so doing ultimately to elevate standards and improve practice. In the field of speech, as elsewhere, a continual re-evaluation of criteria, both as to individual worth and relative importance, is vital to the highest fulfillment of this function.

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1. It is recognized, of course, that the writer of such a study employs the critical method in his research. The very act of selecting or rejecting materials implies evaluation. Yet his ultimate purpose is not appraisal, but accurate exposition or description.
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3. Frederick W. Haberman, "General MacArthur's Speech: A Symposium of Critical Comment," *Quarterly Journal of Speech*, XXXVII (October, 1951), 321-331.
4. Judson Crandell, "Good Critical Writing," *Quarterly Journal of Speech*, XXXV (December, 1949), "Forum," pp. 511-513.
5. I refer, of course, to the passage beginning: "The character [ethos] of the speaker is a cause of persuasion when the speech is so uttered as to make him worthy of belief," and ending "we might almost affirm that his character [ethos] is the most potent of all the means to persuasion." Aristotle, *Rhetoric*, trans. Lane Cooper (New York, 1932), pp. 8-9.

THE ROLE OF PROVERBS IN TENSIONS AND CRISES

JOSEPH RAYMOND

Proverbs as tension reflectors: Acute Tension is reflected in the popular Korean proverb, "When whale's fight, the shrimp's back is broken."[1] The popularity of this comic folk-saying, vividly analogous to the Korean tragedy, rests upon existing tensions in the people who must suffer as helpless shrimps while contenders, proportionately huge as whales, struggle.

Proverbs reflect tensions in countless interpersonal and international situations. For example, anti-clerical sayings paradoxically have abounded in the language stream of traditionally devout peoples.[2] Potently expressive anti-authoritarian proverbs reflected tensions between the Russian people and the Czar.[3] The rollickingly malicious undertone of these folk verbalizations constitutes what might be labeled a "paremiological revolt."[4] To avoid openly criticizing a given authority or cultural pattern, folk take recourse to proverbial expressions which voice *personal* tensions in a tone of *generalized* consent. Thus, personal involvement is linked with public opinion.

Proverbs in tension reduction: Proverbs are important verbal instruments for minimizing interpersonal friction and tensions.[5] This is partly explained by their generalized nature.[6] During tense United Nation debates, the Soviet Union delegate, Andre Vishinsky, has supported many arguments with proverbs:

> In these meetings proverbs sometimes are flung back and forth like verbal missiles. . . Visitors have a field day when Moscow's Vishinsky is in action. He flings more proverbs . . . than any other delegate . . . except perhaps Peru's Belaunde. Interpreting Vishinsky taxes the best of the United Nations Interpreters.[7]

The tension-reduction role of many proverbs may be understood in terms of their function as social safety valves for marked social restraints. The phenomenon suggests a highly stylized culture in which tradition is important. The "safety-valve" hypothesis is supported further by the fact that proverbs always have abounded in the so-called lower classes. In this group, expressions of anger, rebellion, and non-conformance are found frequently. This is the view of Ruesch, who affirms that conflicts often progress beyond the verbal level.[8] Clearly, proverbs not only express, but function in resolving interpersonal conflicts and tensions.[9]

Proverbs and pariahs: some intergroup relations: Folk-sayings considerable tension between the in-group and social outcasts or pariahs. Derogatory statements frequently are in proverb form. In Germany under Hitler, proverbs were considered important enough to occupy the attention of political leaders. Jente describes a "purified edition" of a book of proverbial sayings which appeared in Germany during the Nazi regime. First published by L. Heinemann in Berlin (1929), it was modified by V. Tornius, a verified Aryan, in Leipzig (1936). "Modification" consisted of deleting current sayings coined by non-Aryans. Instead of these phrases, certain political leaders' utterances were substituted prescriptively, even though they were not current sayings, but simply because "they ought to become such."[10] Beyond these verbalized tensions is overt action, which at times extends to drastic group manifestations.

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Roback, in *A Dictionary of International Slurs*, investigates the nature of derogatory statements, many of which are in proverb form.[11] He asserts that people show a proclivity to make disparaging rather than flattering allusions to people other than their own "kind." In defending his concentration on derogatory phrases, he states there simply are none of the flattering type, and that it might as well be asked why medicine fixes attention on disease rather than on health.[12] In English alone, he points out, there are some one-thousand slurs against all nationalities, and that most of the prejudices derive from the common people and the illiterate. Yet, he says, there has been no incisive attempt to interrelate historical, psychological, and sociological facts into one coherent picture. This points to the need for integrated approaches to attitude studies, as urged by many writers like Fromn, Klineberg, Kluckhohn, and Murray.

Groups proverbially rejected for economic, ethnic, religious, regional, or other reasons constitute significant material for social study. As Sumner says, epithets condense ideas and produce summary criticisms and definitions of types by societal selection.[13] Proverbial phrases like "jealous as a Turk," "dumb as a Swede," "obscure as a Greek," "unlucky as a Negro," "to Jew down" (barter) are in themselves conclusive of nothing, but may be clues to historical tensions. Their currency, extensiveness, weighting in the culture, and contextual definition would have to be established before tentative conclusions could be drawn as to types of existing tensions. When such phrases are particularly pungent, they may outlast the circumstances which popularized them; e.g., over 450 years have passed since Jews were banished from Spain, but disparaging proverbial phrases linger in the language stream of Spain.[14]

Proverbs and national crises: Prior to the Pearl Harbor incident, a Japanese government agency stressed the sociological function of Japanese proverbs in canalizing latent tensions. Hints of drastic events to come were inscribed on the proverbial walls. Tremendous emphasis was placed upon virtues translatable into military competencies:

> The education and training of the warriors were conducted with main emphasis on the importance of loyalty to their masters, contempt of death, and indifference to money. The class of men who were taught to deny themselves and to hold pleasures of life beneath their dignity, naturally had little to do with the making of proverbs. Nevertheless, the century of civil wars or its experience had not been lost on the minds of peole. . . This may be said also with regard to the bourgeoisie who formed the bulk of the urban population. Their minds were by no means foreign to conflicting problems of life such as duty and worldly ambition, pleasure and self-denial, pursuit of life and resignation therefrom, indulgence and self-examination . . . the section of society which was most fertile of proverbs as this period bore the impress of thoughts and experiences of the warrior class, priests and court-nobility.[15]

It is not surprising then, that from a people whose minds were regimented to self-denial, sacrifice and stoicism, as reflected in the Japanese proverbs, such phenomena as kamikaze attacks and other manifestations of blind obedience were common Japanese war tactics. These acts were but implementations of this philosophy in a national crisis. It is Erikson's thesis that there should be more extensive study of the conscious and unconscious imageries of nations so as to be able to discern in human motivations "those archaic and infantile residues which in national crises become subject to misuse by

demagogic adventurers." He also says:

> A nation's totality of basic attitudes and symbols is deeply rooted in her geographical position and her history . . . these attitudes and symbols are unavoidably recreated in every child trained and educated in the national culture area. . . they are reflected both in what a member does—and in what he fails to do.[16]

Tensions, attitudes, and symbols are embedded in the language, in what folk say, or fail to say (the "discontinuity" aspect). An anthropologist, commenting on proverbs, indicates "the very incompleteness of a distribution [goes] far to illuminate the history of a cultural trait."[17]

For proverbs and national crises, attention is called to *War Proverbs and Maxims East and West* (1945), in which "belligerent" proverbs from several prominent world languages are cited.[18] English and Russian sayings predominate.[19]

Blood, toil, tears and sweat: Characterizing tensions of the British mind in World War II was Churchhill's phrase, "blood, toil, tears and sweat."[20] Group tensions popularized and sanctioned Churchill's quotation; it metamorphosed into a common phrase evocative of the conditions in which it arose.[21] Often the phrase is "blood, sweat and tears, with easier rhythm and less to remember.[22]

Tensions in national crises are fertile with sayings and slogans, e.g., "54-40 or fight!" "Remember the Alamo!" "The Yanks are coming!" "Remember Pearl Harbor!" The alacrity with which these tension phrases spread among the masses is an index to the degree of social cohesiveness in a particular group or nation. Conversely, where there is no unity of thought, such phrases do not thrive. A case in point is the absense of any quasi-proverbial phrases for the Korean crisis initiated in 1950.* No single event or trend of motivations served to unify national thinking in the United States to the point that a proverb or slogan could capture its essence. Until such a time, no people are mentally prepared for drastic measures, actions, or sacrifices. In the case of Great Britain, folk anxiety, common interests and tensions readily pinned down Churchill's words because they articulated the prevalent state of mind. This psychological phenomenon of group remembering, so implicit in the nature of proverbs, also is an integral part of rumors, slogans, fables, legends, and cartoons. Similar causes and effects are involved in each of these expressions shared in varying degrees by the masses.

Proverbs as cues for international understanding: International understanding depends upon knowing more about the tensions and attitudes of other peoples. Under Lewis's definition of group mind as "group behaviour mediated by group symbols," proverbs are vivid expressions of group remembering, feelings, volitions, and tensions.[23] Emphasis has been placed upon finding differences among peoples, although a certain uniformity of human nature seems to spell itself out in proverbs. Seiler in his paremiological analysis stressed differences between Romans and Germans.[24] It would have been of value to see a treatment of similarities. A mutually-electing affinity (*Wahlverwandschaft*) is the chief cause for intercultural proverb borrowing, such as occurred between the Germans and the Romans, who in turn previously had borrowed from the Greeks.

We need other links in the chain of international thinking and emotions. It is proposed here that proverbs form one link, providing countless clues to comprehending other minds. Every clue contributes to the total picture.

*A possible exception: "All out or get out!"

Whether or not a clearer understanding of proverbs as group symbolic communications in other cultures will lead to a kindlier appreciation of the people is a matter not easily resolved. Prejudiced notions and nationalistic misconceptions form an almost impenetrable barrier to international understanding. The French proverb, *tout comprendre c'est tout pardonner* is, perhaps, but a warm expression of hope, since there is no such understanding unless there is a will to it.

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1. Variants on this theme are understandably popular in other small nations. An Indian version contains a theme of the sparrow crushed to death while intervening between two fighting goats; a Uighur proverb is "two stallions are fighting and a fly is squashed." For amplifications, see Owan Lattimore, *Pivot of Asia*, Boston: Little, Brown, 1950, pp. 246-7. For more Korean examples, see J. Raymond, "Current Korean Proverbs," *Western Folklore*, 10:237-44, July, 1951.
2. e.g., Spanish proverbs often are anticlerical: "show not the monk nor the swine the road," "when you see a monk, get your back to the wall," "priests live off the dead," or "the devil, fed up with his lot, became a monk." See J. M. Sharbi Osuna, *Gran diccionario de refranes . . .*, (posthumous edition by Joaquin Gil), Buenos Aires: Ateneo, 1943.
3. e.g., "When the Czar spits into the soup dish, it fairly bursts with pride," "if the Czar be a rhymster, woe be to the poets," "the hen of the Czarina herself does not lay swan's eggs," "the Czar may be the cousin of God, but he's not his brother," or "when the Czar takes snuff the people will sneeze." See *Harper's Weekly*, 39:187, Feb. 23, 1895.
4. *paremiology* is the technical term for the study of proverbs.
5. "Proverbs are almost the exclusive, certainly the most important verbal instrument for minimizing friction and effecting adjustment, legal, social, or intellectual." (George Herzog, *Jabo Proverbs From Liberia*, London: Oxford University Press, 1936, pp. 5-6, 14-15.) Or, "It is safer to take recourse in a traditional expression to vent their feelings than to become involved in accusations and recriminations." (M. J. Herskovits and F. S. Herskovits, *Suriname Folk-Lore*, [Columbia Univ. Contributions to Anthropology, vol. 27], New York, 1936, pp. 135-6). Or, "In the form of a general truth we may give vent to the bitterest feelings without making ourselves responsible for its personal application." (J. Bigelow, *The wit and Wisdom of the Haytians*, New York: Scribner, Armstrong, 1877, p. 13). And, "Many an angry dispute has been silenced . . . many a long, diffuse argument has been clinched by the apt quotation of one of these proverbs." (E. W. Smith, A. M. Dale, *The Ila-speaking People . . .*, [quoted in J. S. Slotkin, *Social Anthropology*, New York: Macmillan, 1950, 548-91. And, "A proverb is a very suitable vehicle for giving vent to one's feelings . . . it makes even . . . sarcasm less offensive by making it less personal." (E. Westermarck, *Wit and Wisdom in Morocco*, London: Routledge, 1930, p. 57.
6. Funk-Wagnall's *Standard Dictionary of Folklore . . .*, I, New York: 1949, p. 22.
7. F. A. White, "United Nations' 65 Interpreters," *Word Study*, 2, vol. 26, Newark, N. J.: Merriam, December, 1950.
8. J. Ruesch, "Social Technique, Social Status, and Social Change in Illness," *Personality in Nature, Society and Culture*, p. 125, f. 30. Arne Naess, in "The Function of Idological Convictions," *Tensions That Cause Wars*, ed. by H. Cantril, Urbana: Univ. of Illinois Press, 1950, p. 271, appeals for the investigation of "verbal stereotypes with no fairly precise meaning, but influencing controversies." This would apply to proverbs.
9. For interesting documentation, see the section, "Retorting Proverbs," in D. E. Marvin, *Curiosities in Proverbs*, New York: Putnam's 1916, p. 4.
10. R. Jente, "A Review of Proverb Literature Since 1920," in *Corona, by A.* Schirokauer and W. Paulsen, Durham, North Carolina: Duke Univ., 1941, p. 30.
11. A. A. Roback, *A Dictionary . . .* (with a supplementary essay on aspects of ethnic prejudice), Cambridge: Sci-Art, 1944. He terms these expressions "ethnophaulisms." [see also, Marvin, *op. cit.*, "contemptuous proverbs," pp. 309-21.]
12. Ibid., pp. 11-12, 247, and 252.
13. W. G. Sumner, *Folkways*, Boston: Ginn, 1906, 1940, p. 646.
14. Roback enlarges upon the psychology of unflattering allusions, stating that folk locutions are almost invariably un-

favorable when applied to outsiders because of two main tendencies: "self-magnification at another's expense (megalomania) and scapegoat hunting when economic conditions are bad or where mass discomfitures provoke tensions in the community." The idea seems to be, he indicates, "to give a dog a bad name and hang him." (*Ibid.*, p. 302-5).

15. Otoo Huzii, *Japanese Proverbs*, n. p., Japanese Government Railways, Board of Tourist Industry, 1940, p. 5.
16. Erik Homburger Erikson, "Hitler's Imagery and German Youth," *Psychiatry*, 5:493, Nov., 1942. See also, p. 476. Further social interpretation of "gross slogans" and "catchwords" is found in *Tensions That Cause Wars*, pp. 258-9. More fundamental data are provided by Gordon W. Allport and Leo Postman, *The Psychology of Rumor*, New York: Holt, 1947, p. 135.
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19. e.g., an anti-English saying from Spanish is "When the apes die out of Gibraltar the British will have to go." Other "war proverbs" are more general in nature: "Build a golden bridge for the fleeing enemy," "War with all the world . . . peace with England," "He who never draws the sword without cause never lays it down without honor," and "Every war ends where it should begin."
20. Winston Churchill, as prime minister of Great Britain, addressed the House on May 13, 1940: "I would say to the House, as I said to those who have joined this Government: "I have nothing to offer but blood, toil, tears and sweat.' We have before us an ordeal of the most grievous kind. We have before us many, many long months of struggle and suffering. You ask: 'What is our policy?' I will say: 'It is to wage war by sea, land, and air with all our might, and with all the strength that God can give us: to wage war against a monstrous tyranny never surpassed in the dark lamentable catalogue of human crime.' That is our policy. You ask: 'What is our aim? I can answer in one word: 'Victory . . . at all costs . . . in spite of all terror, however long & hard the road may be . . .' " (*Maxims and Reflections*, ed., C. Coote *et al.*, Boston: Houghton Mifflin, 1949, pp. 101-2). [Note: In 1611, John Donne wrote: "Mollifie it with thy teares, or sweat, or blood." (*An Anatomy of the World*, I, pp. 430-1); see J. Bartlett, *Familiar Quotations*, ed. by C. Morley, Boston: Little, Brown, 1949, p. 848.]
21. Precisely, this is a "quotation proverb" or *Sagwort;* for further definition, see A. H. Krappe, *The Science of Folk-Lore*, London: Methuen, 1930, p. 148.
22. There is cause to inquire why certain words in such expressions tend to drop out, while others are retained in the saying. Three psychological aspects of group remembering are involved: levelling, sharpening, and assimilation. These are lucidly treated in F. C. Bartlett, *Remembering: A Study in Experimental and Social Psychology*, New York; Macmillan, 1932, p. 31. Also, "Since a number of individuals are involved, the meaning that emerges is likely to be what is common to the group . . . The idiosyncrasies of one respondent are apt to be omitted by the next, and thus the story [or proverb] is whittled down to a core understandable to all. Rumors are therefor usually more standardized, more acculturated, and have more of a common denominator than do individual memories. For the same reason they are more likely to acquire a moral tone characteristic of the culture." (Allport and Postman, *op. cit.*, p. 60.)
23. M. M. Lewis, *Language in Society*, New York: Social Sciences, 1948, p. 93.
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A STUDY OF THE EFFECTIVENESS OF AN ADDRESS AT ST. LOUIS BY ADLAI STEVENSON

WAYNE N. THOMPSON

Adlai Stevenson is perhaps the most admired American orator since Franklin D. Roosevelt;[1] yet in November, 1952, he suffered a defeat of near landslide proportions.

Although Stevenson's defeat was due to a combination of forces, many of which are unrelated to rhetoric, the almost perfect contradition of results and alleged rhetorical skill poses an interesting topic for investigation and speculation. Was Stevenson a "great" speaker, but an ineffecttive one? Was the response of the members of the university community substantially different from that of the total voting public? Were there rhetorical elements of weakness that might help explain the failure of Stevenson as a vote-getter?

To suggest answers to these questions, the writer made a detailed study of the address delivered in the Kiel Auditorium, St. Louis, on October 9, 1952. His approach is threefold: What was the audience reaction? What was the response of experimental groups? What were the significant rhetorical characteristics of the address?

I

The most detailed coverage of the speech was that of the St. Louis *Post-Dispatch*,[2] and in the many columns of description and analysis the most revealing comments are the following four paragraphs by Herbert A. Trask in the October 10 issue:

> There was, however, some disappointment, with the nature of Stevenson's major address here last night. The audience, dominated by party workers and labor union members, had hoped to hear a rip-snorting speech.
>
> Party wheelhorses could not help drawing a comparison between Stevenson's talk last night and the never-to-be frogotten slam-bang speech made from the same platform by President Truman in the closing hours of the 1948 campaign . . . Truman had ripped into the Republicans with a vigor that brought lusty cheers and stomping feet.
>
> Stevenson's speech, aimed at nationwide radio and television audiences rather than a party rally, was frequently interrupted by applause, but only on three occasions was the cheering as noisy as that set off by Truman four years ago.
>
> However, the ovations given to Stevenson at the start and close of his address were equal, if not greater, than those which were given . . for the man he now seeks to succeed.[3]

In other words, although the crowd received Stevenson politely and with admiration, he failed to arouse enthusiasm. Since the *Post-Dispatch* as a pro-Stevenson paper would hardly belittle the prowess of the candidate, the conclusion that the speech, judged in terms of the immediate audience response, was somewhere between a limited success and a failure seems conservative.

II

A second method of estimating audience response is to carry out an objective study of listeners' attitudes before and after hearing an address. The subjects for the study of reaction to Stevenson's St. Louis speech were twenty-one business and professional men and two hundred students.

The members of each of these groups (1) marked eight-point linear scales to indicate their attitude toward (a) Stevenson's acceptability as a candidate, (b) the soundness of his political ideas, (c) his ability as a speaker, and (d) his character and ideals.[4]

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The two hundred students provided "before" and "after" means on the four factors as follows: (a) 4.82; 4.93; (b) 4.84; 5.10; (c) 6.16; 6.37; (d) 5.43; 5.63. By the t-test[5] these slight mean increases are statistically insignificant.

The twenty-one business men provided these "before" and "after" means: (a) 2.85; 2.32; (b) 3.12; 2.69; (c) 5.96; 5.65; (d) 5.33; 4.04. By the t-test the decline in the attitude toward Stevenson's character and ideals is significant at the 2% level. The other changes may be due to chance.

A straw vote of the same two groups bears out the conclusion that the speech was ineffective. The business men voted 19-2 against the Governor both before and after watching the address by television. The students, some of whom observed by television and some by radio, favored Stevenson 122-78 before the speech and 127-72 (one undecided) afterwards. By the statistical test of chi-square,[6] a change of this magnitude is insignificant.

Three subsidiary studies aimed to throw additional light upon the questions, (1) "What kind of persons shift position?" (2) "Was there a shift in respect to the topic of the speech?" and (3) "What portions of the speech did the businessmen like and what portions did they dislike?"

(1) Although the group that shifted was too small to justify statistical treatment, a case study indicates that (a) its members were close to a point of neutrality both before and after hearing the speech; (b) they were more affected than their colleagues were by the personal qualities of the candidates; (c) they had never been much impressed by the argument that "a Stevenson administration would be a continuation of corruption and Trumanism"; and (d) they were unusually interested in domestic economic policies. As the topic of the speech was economic, these data suggest that the content of the address may have been responsible for the changes.

(2) The method used to attempt an answer to the second question was to compare the "before" and the "after" responses of the respondents on why they favored (or opposed) Stevenson. The number of persons checking a particular reason for being favorable (or in opposition) resulted in a series of percentages, each attached to a campaign issue. The stability of the reasons for voting preferences was very great with only the economic issue showing a change of more than one percent. This as a reason for opposing Stevenson declined from 21.4% to 19.6% and as a reason for favoring him increased from 16.7% to 19.1%. Statistically these changes are insignificant.

(3) The use of three Thinkometers[7] produced data on which parts of the address the business men liked and which they disliked. Already accustomed to the use of the device, the men registered approval by depressing a button, and a meter indicated the results. They disliked the introductory minute, the portion dealing with the second of Government's three duties (to act in the avoidance of depressions), the prediction of an expanding future economy, and the advocacy of the repeal and replacement of the Taft-Hartley Law.

They liked most the statements that government should encourage business to be creative, that racial discrimination should be eliminated, and that the budget should be balanced.

III

Using conventional standards of rhetorical analysis, the writer at the time he heard the speech considered

it ineffective. Later he found that the manuscript read impressively.

The reasons for the ineffectiveness of the speech *as delivered*, in the opinion of the writer, are several. (1) Poor eye contact, with much up-and-down head motion due to great dependence on the manuscript. (2) Poor phrasing and centering. Phrases were too short, and each center received almost equal emphasis; these two factors produced a jerky delivery and robbed climatic parts of emphatic power. (3) A lack of specific evidence in attacking the Republicans. Although he spoke of Republican shortcomings, he failed to say what laws they had opposed—to name names and to cite cases. In this respect he neglected to follow Truman's practice in 1948 of "reading the record." (4) A lack of oral style. The literary quality of Stevenson's speeches has been frequently praised, but this attribute is not necessarily an asset during delivery. Raymond P. Brandt, writing in the *Post-Dispatch* for Oct. 10, 1952, noted, "The most spontaneous and prolonged cheering came after an ad libbed attack on General Eisenhower's refusal to discuss the issues" and "Stevenson ad libbed other remarks which brought sustained applause and cheers."

IV

This brief survey of the anomaly of an admired speaker who failed as a political candidate suggests, in conclusion, that a contributing factor to his defeat was rhetorical ineffectiveness. At least in the instance of the St. Louis address he was received politely but unenthusiastically by the immediate audience, and he did not alter significantly the opinions of the members of two experimental groups.

Finally, although the address read well from the printed page and had many points of excellence, it was defective in certain rhetorical aspects closely related to the winning of response.

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1. Richard Murphy says of Stevenson, "He supplied the best rhetoric of the campaign."—"The Election of 1952: A Symposium," *Quarterly Journal of Speech*, XXXVIII, 402.

   J. Jeffery Auer evaluates Stevenson's Acceptance Address as "one of the great speeches of our day."—"Political Speaking in 1952: A Symposium," *Quarterly Journal of Speech*, XXXVIII, 288. The writer, most of whose friends are members of a university community, has never heard an adverse comment concerning Stevenson's ability as a public speaker.
2. Bernard DeVoto in discussing the newspaper coverage of the campaign states that only two major papers, the *Post-Dispatch* and the *New York Times*, provided full coverage.—"The Easy Chair," *Harper's* Magazine, CCVI, 52.
3. pp. 1 and 6
4. For a detailed discussion of the procedure and the assumptions of this sort of statistical study, see Wayne N. Thompson, "A Study of the Attitude of College Students toward Thomas E. Dewey before and after Hearing Him Speak," Speech *Monographs*, XVI, 125-128.
5. George W. Snedecor, Statistical Methods (Ames, Iowa: The Iowa State College Press, p. 65.
6. Ibid., p. 190
7. The writer is indebted to Robert Grunwald, the inventor and manufacturer, for the use of the machines and for other valuable cooperation.

AN EXTENSION OF REFERENCE FOR ELOCUTION

MARGARET ROBB

The word *elocution* is not in favor today; to many people it connotes an affectation in public reading — an orotund vocal quality and bird-wing gestures. Its original area of reference was quite different. It seems that words, like people, may lose their reputations because of bad associations. But if they can boast a respectable ancestral background, they may be reinstated in linguistic society. *Elocution* can do a bit of boasting; derived from the rhetoric of the Greeks, it became a separate study of delivery through the work of many great theorists and teachers who were interested in the development of the English language as an adequate means of communicating ideas in both written and oral forms.

Elocutio, or style, and *pronuntiatio,* or delivery, are two of the five parts of classical rhetoric. Although *elocutio* means "to speak out," for years in England it referred only to the written style of the rhetorician. Thomas Wilson, a sixteenth century rhetorician, gives probably the first definition of elocution found in English writing:

> But yet what helpeth it though wee can finde good reasons, and knowe how to place them, if wee have not apt words and picked sentences to commende the whole matter. Therefore, this point must needes folloe to beatifie the cause, the which being called elocution is an applying of apte words and sentences to the matter found out to confine the cause.[1]

This rhetoric, often designated as the rhetoric of exornation, was replaced by classical rhetoric during the seventeenth and eighteenth centuries, and more emphasis was placed upon the concept of the "good man speaking well." John Mason, a nonconformist divine, was one of the first writers to use the terms elocution and pronunciation interchangeably. In his *Essay on Elocution or Pronunciation, Intended Chiefly for the Assistance of Those Who Are Often Called to Speak in Publick,* published in 1751, he defines the subject in the following manner:

> A good pronunciation in reading is the Art of managing and governing the Voice so as to express the full Sense and Spirit of your Author in that just, decent, and g r a c e f u l Manner, which will not only instruct but affect the Hearers; and will not only raise in them the same Ideas he intended to convey, but the same Passions he really felt,[2]

The Aristotelian concept of practical speech included good delivery as necessary for effective speaking and reading. At length, *elocution* was used to mean oral delivery. Ebenezer Porter, an early American elocutionist, defines it thus: "Elocution, which anciently embraces style and the whole art of rhetoric, now signifies manner of delivery, whether of our own thoughts or those of others."[3]

Undoubtedly Aristotle recognized the interdependence of written and oral style in the effective presentation of ideas. Baldwin states that Aristotle included delivery, by implication, under diction. Referring to that section of Book III of the *Rhetoric,* he says:

> . . . . . it is an analytic division of delivery into voice-plac-

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> ing and volume, pitch and rhythm; it points to the value for public speaking and the arts of dramatic recital, and most of all, it relates delivery to the whole idea of style as concrete presentation versus abstract formulation.[4]

It is true that Aristotle did not consider delivery an "elevated subject of inquiry" but he did consider it a necessary adjunct to rhetoric.[5] Cicero and Quintillian added action to concept of *pronuntiatio,* and justified the addition in terms of the attention it had been given by the Greeks. Quintillian insisted that the rhetorician should enlist the help of an actor and a teacher of gymnastics: the former to teach the use of the voice and to correct the movements of the head and the hands. Chironomy, the law of gesture, originated in heroic times, he states and "met with the approval of the greatest Greeks, not excepting Socrates himself."[6]

Elocution in the eighteenth century included both vocal expression and bodily action. This inclusion of action was not due entirely to a reverence for the ancients but because there was criticism of the public speakers of the day, especially the clergy. Addison observed that the preachers stood stock-still and did not so much as move a finger to set off the best sermons. Anselm Bayly, sub-dean of his Majesty's Chapel-Royal, lamented the fact that England could boast more good writers and fewer good speakers than any other country and placed the blame upon the schools.[7]

Because of the insistent demand for better-trained speakers, the so-called Elocutionary Movement evolved. The two most important leaders, John Walker and Thomas Sheridan, were actors and lexicographers as well as teachers of elocution. Both of them were interested in studying the language as it was written and spoken. Elocution meant to them and to their followers a study of delivery, and they worked hard to formulate theories and rules which would be helpful to teachers and students. Sheridan stated the problem in a discourse which he delivered at Oxford in 1759. He said:

> Since therefore, nothing can be done without art, and all art is founded upon principles, and should be taught by rules, the first necessary step is to trace the principles of elocution. These once discovered, to establish upon them a system of rules, peculiarly adapted to the English tongue, whereby the art of elocution may be regularly acquired as any other art now is, and a knowledge of English, so far as regards elocution, methodically obtained.[8]

Perhaps because they were actors and sensitive to the ephemeral quality of the speech arts, they were eager to devise notations which would accurately record speech. Walker's theory that variation in inflection, timing, and emphasis depended primarily upon grammatical construction led him to devise more rules and notations than Sheridan found necessary. Sheridan believed that good delivery was based upon conversational speech: if a speaker or reader reconstructed the ideas and sentiments of the written page and expressed them as his own, he would naturally give the proper inflection and emphasis. Thus he began the tradition carried on in the next century by Blair and Whately in England, and principally by Porter and Curry in the United States. Sheridan's *Lectures on Elocution* (1776)[9] and Walker's *Elements of Elocution* (1781)[10] became standard textbooks

in England and America; Walker continued to offer competition to American texts until the middle of the nineteenth century.

The early elocutionist was very much interested in the study of individual sounds. Sheridan isolated twenty-eight different sounds in the English language—nineteen consonants and nine vowels. The consonants he labeled: dentals, labials, palatine, and nasal. Combinations of sounds interested Walker and he observed that pronunciation varied according to the importance of the word in the sentence, variations producing strong and weak forms. This interest in speech sounds and in exercises designed to improve the articulation and pronunciation of the student continued to be an important part of elocution. Dr. Rush discovered thirty-five "vocal elements" in his study of speech, and Murdoch and Russell listed forty-three in *Orthophony*, published in 1848.

The American elocutionist of the nineteenth century extended the meaning of the word *elocution* to include a study of the physiological and physical bases of speech. Porter included four chapters in his *Lectures on Eloquence* on the physiology and anatomy of the vocal organs.[11] Many schools of elocution included physical exercises as a part of elocutionary training; deep breathing exercises became a requisite part of the practice period; and the "acquisition of a firm and easy attitude" was often mentioned as necessary for effective delivery. Dr. James Rush attempted to give a scientific basic for elocutionary training and to devise a suitable nomenclature for the different modes and vocal signs. His book, *The Philosophy of the Human Voice*, published in 1827, was the basis of elocutionary theory in the United States until late in the century.[12]

The chapter in the history of elocution which seems most amusing today, and which is responsible, in a large part, for the disuse of the word today, is the one dealing with action. Following the trend of developing theories, rules and notations, this part of elocution became very mechanical. Many writers attempted to describe all the different passions, or emotions, and the proper action to express them. James Burgh, an English elocutionist, listed seventy-eight different moods or emotions which included intoxication, dotage, and death. His description of mirth will serve as an example: "Mirth, or laughter, opens the mouth still more toward the ears; crisps the nose; lessens the aperture of the eyes, and sometimes fills them with tears; shakes and convulses the whole frame; giving considersable pain, which occasions holding the sides."[13] Gilbert Austin's *Chironomia*, published in 1806, presented a complicated system of recording gestures and stage movement. The symbols used were based upon relative positions in the sphere in which the speaker stood. For example, the letters *phf*, *q* and *x* indicated that the hand is first prone, the arm horizontal and forward, then oblique and extended. This system, although complicated and mechanical, was used by the majority of elocution teachers, usually in a modified form, for the next fifty years.[14]

The followers of Delsarte introduced an equally complicated system which classified gestures according to the zones of the body and the kind of movement. The zones consisted of the *vital*, *intellectual*, and *moral;* the movements were *normal*, *eccentric* and *concentric*. Delsartions believed everything in nature to be triune. The body of man contained three mechanisms for the expression

of mind, soul and life: the vocal mechanism, representing life, produced inflection; the buccal mechanism representing mind, produced word; and the dynamic mechanism, representing soul, produced gesture. The Delsarte System was not scientific but purely speculative, and unfortunately became a fad which not only affected elocution but also physical education. However, beyond the exaggerations and absurdities which the study of action as a part of elocution developed, there was the principle of the interrelation of mind and body which is an important concept for the speaker and reader today.[15]

Another field of study not confined to but often included in the teaching of elocution was that of accent, rhythm, and melody. The question of whether accent indicated inflectional change, quantity, or plain stress was much discussed by the English elocutionists. Sheridan stated that, although accent might have meant something different to the ancients, in English it was used to distinguish one syllable from another. Walker disagreed with the idea that accent indicated primarily stress upon the syllable and stated that it indicated inflection as well. He explained the differences in speech melody in English, Irish, and Scotch speech in terms of accent. The words could retain the same emphasis, he explained, but be subject to the acute, grave, or c i r c u m f l e x inflection. "Speaking with an accent" came to mean a different speech pattern of stress and modulation than that commonly used by a language group.

Joshua Steele's *Prosodia Rationalis* (1775) was a significant contribution to the field of elocution because of the use of symbols, resembling musical notation, which he used to record speech and because of his analysis of the rhythm of speech. He stated that the essential difference between singing and speaking was the sliding up and down of the speaking voice with no graduated distinctions between tones or semitones which can be measured by the ear, whereas, in singing, the voice ascends and descends through a variety of notes, as formally different as the steps on a ladder. Steele believed that rhythm regulated the duration of melody by an exactly equal and periodical pulsation, and that stress was an important part of the speech rhythm. He was not so much concerned with accent as it applied to pronunciation but rather as stress in the rhythm of poetry. Duration he considered an important part of emphasis.[16]

It is impossible to name all the elocutionists who by their study, writings, and their work as teachers gave real significance to the word *elocution.* They defined the problems of using and recording language, of making the written word effective when spoken, and of combining action and vocal expression as necessary parts of delivery. They laid the foundations for many specialized fields today, among them, phonetics, speech science, and oral interpretation of literature. Because of its history, it is possible that *elocution* may be reinstated in the modern vocabulary. There is no other word for the study of delivery which is so exact and colorful.

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RESEARCH PERTAINING TO THE SINGING VOICE 1925-50

CHARLES L. HUTTON JR. AND JOE M. BALL

I. INTRODUCTION

This survey had two purposes: (1) to compile a core of experimental results and conclusions pertaining to the singing voice; (2) to find out to what extent the acoustical, physiological, and psychological aspects of the singing voice can be quantified at the present time. The important findings and bibliography are reported herein. It was assumed that research in the field of voice science which includes both the singing and the speaking voice would be pertinent to this study. The arbitrary divisions are imposed only for the convenience of the reader and the writers.

II. THE SURVEY

Breathing. The controversy about the types of breathing and the importance of breath control, etc. seems to have been well covered by Fields (3). Of 428 concepts of breathing advocated, only 25 were documented. Roentgenographic studies of chest movements have been made by several investigators (1,2,12). The studies are not complete and are not always in agreement. The small samples did not include trained singers.

Stetson (15,16,17) has measured extensively the peripheral movements of breathing: at the beginning of the expiratory cycle there is a tension of both thoracic and abdominal muscles of respiration. This results in a fixation of the rib-cage. The diaphragm and thoracic muscles of respiration remain tense to prevent rapid emission of air from the lungs. They relax gradually under greater pressure of the abdominal muscles which cause a slow recession of the abdominal wall and a corresponding decrease in the size of the rib-cage. This action of the musculature forces the air outward at the pressure necessary for tone production and allows for variations in pressure to produce tones of different loudness.

Stetson found little difference in the breathing coordination between the sexes, between the standing and sitting positions, and between certain types of the speaking and the singing voice. In staccato singing, the abdominal muscles contract sharply with each note. In general the difference between the breathing movements of trained and untrained singers is a difference in coordination and finer movements of the thoracic and abdominal musculature. As a result, the untrained singer does not have a steady contraction, i.e. does not maintain even air pressure in the lungs, so is unable to sing a smooth legato tone. It would seem from Stetson's studies that finer breathing movements and coordinations are a natural outgrowth of constant and vigorous singing. The differences between the breathing of the trained and the untrained singer is one of development of muscle action and not a difference in breathing method or type.

The studies of breathing types and breath control do not indicate that a superior singer or speaker has a special physique (14,15,16,17). Vital capacity, abdominal predominance, depth of inhalation, etc. seem to be of relatively little importance (5,6,8,10,11,14,18). However, con-

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scious attempts at breath control and regional predominance seem definitely to interfere with the natural mechanics of breathing (4,13,19). The breathing mechanism seems to be the same for normal and loud speech (4,6,18), another indication that the breathing mechanism is a fairly constant coordination when not interfered with. Such arguments as advanced by Josephson and Willens (9) and by many singing teachers according to Fields concerning breathing types and breath control are not substantiated by the available research. On the contrary, it is concluded from these studies that there is no need for breathing exercises unless the subject indicates a breathing abnormality. Since the basic breathing movements of trained and untrained singers are the same, it is further concluded that emphasis on regional predominance, breath control, etc. are not only unjustified, but may even be detrimental.

Infraglottal Resonance. It has been established that vibrations do take place in the thoracic cage (26,30,31, 32,33,35). It has been further established that the thoracic cage acts as a highly dampened sounding-board (20,21,22,24,25,26,27,29,30,31,32, 33). Therefore, these vibrations do not represent an addition of resonance to the laryngeal tone but rather represent an energy loss (22,29,31, 32,33). According to the available evidence, it would seem that the greatest contribution of the infraglottal areas to the singing voice is in connection with air pressure (24, 25). Such statements as that by Robert Curry (23) and others, that the sub-glottal regions reinforce the fundamental and lower partials do not seem to be reliable on the basis of the data reported in this paper. Any resonance contributions are probably of little importance.

The Vocal Folds. Pitch changes are apparently the result of very complex action in which variations of mass, length, and tension of the vocal folds are affected by the entire laryngeal musculature (25,28,33,36, 48,56,57,58,60,61,64,67). The vocal folds have a complex wave-like opening and closing movement; the open- begins anteriorly and inferiorly and progresses posteriorly and superiorly. The closing phase begins posterioly and progresses anteriorly and inferiorly (33,56,58). The movements are in phase with both horizontal and vertical displacement (33, 56,58). Three modes of vibration have been observed (33,36,45,56,57, 58,61): The lowest pitch or gutteral has a constant posterior opening; then the folds straighten and become parallel when the middle pitch region is reached; further changes in this pitch region seem to be accomplished by changes in length, tension, and breath pressure; the extreme high pitch and/or falsetto seems to be a result of damping of the vocal folds. Length and tension seem to increase as pitch increases (25,33,36, 56,57,58,61,67). More elongation is noted for trained singers (28). However, at higher pitches length decreases as the intensity is increased (33,61). The displacement increases with increasing intensity but not proportionally (33,54,61). The closure time is greater for trained singers and the displacement seems to be smaller for untrained singers, both of these phenomena occurring at higher intensities (33). Evidently the trained voice is a more efficient voice (33,48,60).

It has been demonstrated that the supraglottal cavities have no effect on pitch (33,55,70,71,72); the vibratory rate of the vocal folds equals the perceived pitch vibratory rate (33). The pitch segments of the

singing range which possess a characteristic quality within each pitch segment and which are usually called "voice registers" would seem to be a function of the vocal folds (14,23, 55,70,71). The thyroarytenoids are judged to be the most important muscles of the voice (48,60,61,67), but Pressman (60) points out that the vocal folds are capable of delicate adjustment by the action of some sixty muscles. The strain and overworking imposed on the thyroarytenoid muscles has been noted (25, 52,62,64,75,78). Changes in voice quality are attributed to the vocal fold function (33,37,43,47,56,64). It has been observed that the vocal folds emit a complex tone of prabably considerable loudness (33,22, 47,65,68). However, vowel formants do not seem to be a function of the vocal labia (33,47,68).

The Ventricular Folds and the Epiglottis. The main function of the ventricular folds during phonation is probably to aid in the lubrication of the vocal labia (28,48,52,61). However, considerable movement has been observed during some of the vocal gymnastics of trained singers (48,61,82). There is evidence that ventricle changes may accompany vowel changes (45,79,77,86). The function, if any, of the epiglottis during singing has not been thoroughly investigated (66,77,80,85).

Larynx and Pharynx. During singing, the thyroid and cricoid cartilages seem to move in horizontal and vertical planes and also rotate somewhat (28,73,85,97). Although the larynx generally moves inferiorly and slightly posteriorly for low pitches and moves superiorly and slightly anteriorly for high pitches (97,99, 101,105), the studies of trained singers indicate a tendency to stabilize the movements of the larynx (45,60, 90,97,107). The hyoid always seems to descend upon initiation of phonation in untrained singers (81,85). At this time it is also closer to the thyroid and apparently aids in fixation of the latter in trained singers (25, 85). Horizontal tongue movements seem to be important to hyoid position, but modifications may take place in trained singers (77,85,97).

The open throat position is described as the position taken by the larynx during deep inspiration with a wide jaw opening (86,88,90,93). Open throat singing seems to aid both the quality of the voice by lowering the resonant frequency of the pharynx and also the control of the voice by reducing muscular constriction and interference (14,88,90). The palatopharyngeus and palatoglossus together with the muscles of the lower jaw are reported as being the most likely to interfere with the open throat position (14,88). Inasmuch as certain laryngeal and pharyngeal modifications have been observed for vowels (77,92,95,98,106), it would seem that the open throat is a relative position involving the non-tension of the constrictor and lower jaw muscles (14,88).

Nasality and Suprapalatal Resonance. According to the research in this area there would seem to be two types of nasality. The first has an attenuation of the high frequencies and an accentuation of the low frequencies (22,111,117,121). It seems to involve the relationship between the openings into the oral and nasopharyngeal cavities (22,66,75,81,86, 93,95, 96,101, 111,113, 115,119, 126, 129). The second type of nasality would seem to have a spectrum tending to be the opposite, i.e. an attenuation of the low and an accentuation of the high frequencies (22,53). It would seem to involve hypertension of the larynx and pharynx (22,43, 66,78,88,112).

The studies of suprapalatal resonance indicate that these cavities have little influence on voice quality except by abnormal occlusion of the posterior nares resulting in an attenuation of the high frequencies (22, 24, 31, 53, 106, 116, 123, 128). Since it seems that nasality may be undesirable from both a physiological and an acoustical viewpoint, it is difficult to accept the thesis of Westerman (127), and of others according to Fields (3) and Ross (122) concerning the use of an open nasal port and the importance of resonance above the level of the roof of the mouth, i.e. the use of humming as the basic voice building technique.

The Oral Region. It has been found for untrained voices that tongue movements apparently greatly influence the position of the larynx (77). Tongue movements and vowel formants in turn vary according to the vowel (151,152,153,157,163,164, 165). However, some modifications of tongue-vowel movements such as dorsal concavity and flattening of the tip have been observed for trained singers (81,101). The two observers who found deviations from the conventional vowel triangle used a number of singers for subjects (168). Certain invesigators have also found that the oral cavity is not critical for vowel formation when some abnormal conditions are present (138, 148,149). There are small, but significant, intensity differences between vowels (144,145). Vowels are modified to some degree by such factors as pitch, intensity, and preceding and following sounds (50,68,112,133,134, 135,136,145,169). There seem to be certain quality formants with a concentration of energy in a few narrow bands (156,158,170,130,131). It has been observed that lip and jaw openings seem to increase as pitch and intensity increase (81,144,167).

Vibrato. The vibrato is reported as being a necessary ingredient of an artistic singing voice (179,181,183, 185). It seems to be the result of regular muscle action currents acting on the muscles of respiration, the larynx and sometimes the pharynx (15,179, 184,189,190). Rates of fluctuation for artistic singers are variously reported as averaging approximately five to seven pulsations per second, with variations within and between individuals depending on the musical score (15,108,177,185,187,189, 191). The pitch and intensity fluctuations vary considerably averaging about .5 of a musical step and 2-3 db respectively (177,183,185,187,191). The perceptual factors of vibrato seem to be rate of fluctuation, amplitude of pitch change, amplitude of intensity change, and phase relationships (108,175,180,181,183,191). However, listeners hear but a small fraction of the pitch and intensity fluctuations; an averaging process seems to take place in the hearing mechanism (108,181,182,186,191). Differences between vowels, sexes, and students and artists are reported as not being significant (183,185). When the perceptual dimensions of the vibrato do not fall within certain areas, the resultant phenomenon has often been called tremolo (183,184, 191). Neither the physiological correlates nor the effect of tremolo on the voice seem to have been well studied (183,184,191). Successful development and modification of the vibrato is reported (183,188,190, 191).

Acoustics Pertaining to the Singing Voice. Intensity has some effects on pitch, but because of the wave-complexity of the vocal tone, the effect is not large (198). The pitch-duration relationships would not seem to be important in singing, be-

cause of the loudness involved (195, 214).

The effect of accentuating certain voice frequencies seems to result in a definite change of voice quality (66,147,158). It is interesting to note that 60% of the energy of the voice lies in the region below 500 c.p.s (147). This same low frequency region is of little importance to the intelligibility of song or speech (66, 147).

Quantitative Studies of the Singing Voice It is suggested that singing be taught as a muscle coordination rather than an imagination process (184, 216,217). This view is suggested by the studies which indicate a relationship between singing ability and muscular coordination ability as opposed to mental or auditory ability (216, 217). Another group of investigators suggest that breath expulsion curves and pitch-intensity curves indicate that the student should sing medium loud tones with an open throat and without any attempt to control breath (88,184,191). Further that the upper and lower range extremes—including falsetto—should be exercised first (126,184,191,235). If this is done the weaker muscles will be strengthened to the point that the voice registers will coordinate, i.e. the abrupt quality changes which usually appear at certain pitches will be minimized (184,191). Based on limited data this isolation and development of registers would seem to include all phases of vocal maturation (184, 191). Pitch and intensity ranges are smooth and extensive with good quality (184,191). There is some evidence of a wide ability to sing (184, 224). It has been proposed that the vowel (*a*) be used for vocalizing because of apparent ease of production and high intensity characteristics throughout the singing range (222, 234). In order to arrive at an objective evaluation of the singing voice, a spectrum analysis and a sonance analysis have been proposed with certain standards to be used (14, 159,229). Another approach is a combination breath expulsion, pitch intensity, and vibrato study (14). More recently a seemingly extensive, but unvalidated, rating scale has been set forth (233).

III. CONCLUSIONS

An attempt has been made to bring together a core of experimental data in order to quantify the singing voice. While this core is lacking in many respects and is subject to future correction, there are some conclusions which seem to be warranted by the data:

(1) The singing teacher should let the breathing mechanism alone.

(2) Concepts of infraglottal and suprapalatal resonation should not be used as the basis of vocal education.

(3) Voice registers (as defined) would seem to be the result of laryngeal action.

(4) Singers regularly modify acoustical and/or psychological characteristics of vowels at certain pitches and intensities; physiological modifications of vowel movements may also be typical for singers.

(5) It is suggested that singing be taught as a muscular coordination, not a thinking process.

(6) Two conditions would seem to facilitate the development of a singing voice: using an open throat (as defined), and exercising the upper and lower range extremes of the voice, including falsetto, at MF loudness.

(7) The vowel (*a*) is suggested as being the vowel most condusive to vocal development.

(8) The vibrato, an integral part of the artistic singing voice, can be developed and modified.

(9) Some acoustical, physiological and psychological aspects of the singing voice can be quantified at the present time.

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